## **EAST Search History**

## **EAST Search History (Prior Art)**

| Ref#       | Hits | Search Query   | DBs   | Default<br>Operator | Plurals | Time Stamp          |
|------------|------|--|---|---------------------|---------|---------------------|
| L1         | 10   | ((YASUHITO) near2 (URASHIMA)).INV.   | US-PGPUB;<br>USPAT  | OR                  | OFF     | 2010/12/14<br>00:10 |
| L3         | 1    | (substrate and buffer adj layer and non \$1periodical\$2 and (groove or scratch)). | US-PGPUB;<br>USPAT  | OR                  | ON      | 2010/12/14<br>00:15 |
| S1         | 1    | "10586543"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | ON      | 2009/02/01<br>16:30 |
| æ          | 2    | ("20030207125").PN.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2009/04/23<br>23:54 |
| ೫          | 0    | ("(insularnear2crystal)with(III\$1Vor<br>(groupnearIIInearnitride)").PN.           | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2009/04/24<br>00:05 |
| S4         | 1    | (insular near2 crystal) with (III\$1V or (group near III near nitride))            | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2009/04/24<br>00:06 |
| <b>S</b> 5 | 6    | (insular near2 crystal) and (III\$1V or (group near III near nitride))             | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2009/04/24<br>00:06 |
| S6         | 0    | (10/443794). CCLS.   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2009/04/24<br>00:08 |
| S7         | 1    | 10/443794  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR                  | OFF     | 2009/04/24<br>00:08 |

| <b>S</b> 8  | 4     | ("2000068474").PN.   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/04/24<br>00:08         |
|-------------|-------|--|---|----|-----|-----------------------------|
| <b>S</b> 9  | 513   | (III\$1V or (group near III near nitride))<br>and (groove same surface same<br>substrate) and @ad<"20040126" | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/04/24<br>00:22         |
| S10         | 0     | S9 and (buffer near (column\$2 island))  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/04/24<br>00:23         |
| S11         | 2     | S9 and (substrate with surface with roughness)   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/04/24<br>00:46         |
| S12         | 19    | (udagawa near takashi).in. and<br>(epitaxial near wafer)   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/05/28<br>20:14         |
| <b>S</b> 13 | 18    | ("5103284"   "5455431").PN. OR<br>("5886367").URPN.  | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2009/05/28<br>20:17         |
| S14         | 0     | ("("20030207125").PN.").PN.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/05/28<br>20:35         |
| S15         | 2     | ("20030207125").PN.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/05/ <b>28</b><br>20:35 |
| S16         | 96964 | (III\$1V or (group near III near nitride))   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/05/29<br>13:28         |
| S17         | 13014 | S16 with substrate   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/05/29<br>13:29         |

| S18  | 477 | S17 and (substrate with surface with (roughness rough))  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/05/29<br>13:30 |
|------|-----|--|---|----|-----|---------------------|
| S19  | 216 | S18 and @ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/05/29<br>13:31 |
| \$20 | 33  | ("20030064535"   "20040235268"   "20050032330"   "5013681"   "5217564"   "5231047"   "5374564"   "5391257"   "5637187"   "5641381"   "5713057"   "5877070"   "5882987"   "6020252"   "6103597"   "6150239"   "6221738"   "6242324"   "6323108"   "6328796"   "6346458"   "6429104"   "6465327"   "6497763"   "6504091"   "6794276"   "6815309"   "6908828"). PN. OR ("7019339").URPN.  | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2009/05/29<br>16:58 |
| \$21 | 44  | ("3964957"   "4495219"   "4530149"   "4906594"   "5141878"   "5198071"   "5198371"   "5213986"   "5374564"   "5409563"   "5427052"   "5494835"   "5506176"   "5508207"   "5518965"   "5559043"   "5686980"   "5705421"   "5714395"   "5841931"   "5854123"   "5869387"   "5869405"   "5877070"   "5966620"   "5966625"   "5968279"   "6004868"   "6008128"   "6107213"   "6143628"   "6162705"   "6171965"   "6171982"   "6194327"   "6204151"   "6214701"   "6251754"   "6274464"   "6287941"   "6342436").PN. OR | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2009/05/29<br>17:10 |
| S24  | 269 | (III\$1V or (group near III near nitride))<br>and (groove with surface with<br>substrate) and @ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/05/29<br>18:59 |
| S25  | 1   | 10/443794  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/05/29<br>19:42 |
| S26  | 357 | (III\$1V or (group near III near nitride))<br>and (groove near4 substrate) and<br>@ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/05/29<br>20:02 |
| S27  | 13  | ("4567393"   "5571603").PN. OR<br>("5821568").URPN.  | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2009/05/29<br>20:19 |

|             | . , |  |   |    | · , | · ,                 |
|-------------|-----|--|---|----|-----|---------------------|
| S28         | 11  | ("5821568"   "5909036"   "6072197"  <br>"6086673"   "6107162"   "6225650"  <br>"6335546"   "6411636"   "6542526"  <br>"6576533").PN. OR ("6773504").URPN.  | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2009/05/29<br>20:21 |
| S29         | 342 | (III\$1V or (group near III near nitride))<br>and (surface with (roughness<br>irregularities) with substrate) and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/05/29<br>20:31 |
| \$30        | 328 | S29 not (S26 or S24)   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/05/29<br>20:32 |
| S31         | 2   | ("20030207125").PN.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/05/29<br>21:02 |
| S32         | 44  | ("3964957"   "4495219"   "4530149"   "4906594"   "5141878"   "5198071"   "5198371"   "5213986"   "5374564"   "5409563"   "5427052"   "5494835"   "5506176"   "5508207"   "5518965"   "5559043"   "5686980"   "5705421"   "5714395"   "5841931"   "5854123"   "5869387"   "5869405"   "5877070"   "5966620"   "5966625"   "5968279"   "6004868"   "6008128"   "6107213"   "6143628"   "6162705"   "6171965"   "6171982"   "6194327"   "6204151"   "6214701"   "6251754"   "6274464"   "6287941"   "6342436").PN. OR ("6969668").URPN. | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2009/05/29<br>21:05 |
| <b>S3</b> 3 | 42  | (III\$1V or (group near III near nitride))<br>and (groove with surface with<br>substrate with (".mu.m " or "nm")) and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/05/29<br>21:12 |
| S34         | 51  | (III\$1V or (group near III near nitride))<br>and ((groove near4 substrate) with (".<br>mu.m " or "nm")) and<br>@ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/05/31<br>23:01 |
| S35         | 5   | ("4308078"   "6071795"   "6113685"  <br>"6348096"   "6426519").PN. OR<br>("6864158").URPN.   | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2009/05/31<br>23:08 |
| S36         | 39  | (III\$1V or (group near III near nitride))<br>and (groove same surface same<br>substrate same sapphire) and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/06/01<br>14:59 |

| <b>S</b> 37 | 7   | (III\$1V or (group near III near nitride))<br>and (groove same surface same<br>substrate same sapphire same depth)<br>and @ad<"20040126" | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/06/01<br>15:04 |
|-------------|-----|--|---|----|-----|---------------------|
| S38         | 18  | (III\$1V or (group near III near nitride))<br>and (groove same substrate same<br>sapphire same (depth deep)) and<br>@ad<"20040126"       | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/06/01<br>15:04 |
| <b>S39</b>  | 5   | (III\$1V or (group near III near nitride))<br>and (roughness same substrate same<br>sapphire same (depth deep)) and<br>@ad<"20040126"    | US PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/06/01<br>15:14 |
| S40         | 3   | (III\$1V or (group near III near nitride))<br>and (buffer near4 columnar) and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/06/01<br>16:20 |
| S41         | 2   | ("6376866").PN. OR ("6917059").<br>URPN.   | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2009/06/01<br>18:06 |
| S42         | 168 | 257/11.ccls. and @ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/06/01<br>18:56 |
| S43         | 284 | 257/189.ccls. and @ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/06/01<br>18:57 |
| S44         | 309 | 257/615.ccls. and @ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/06/01<br>18:57 |
| S45         | 3   | 257/e33.023.ccls. and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/06/01<br>18:57 |
| S46         | 352 | 257/e33.049.ccls. and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/06/01<br>18:57 |

| S47         | 31 | 257/e31.019.ccls. and<br>@ad<"20040126"                                  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/06/01<br>18:57 |
|-------------|----|--|---|----|-----|---------------------|
| S48         | 1  | "10586543"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2009/12/29<br>18:14 |
| S49         | 2  | ("20030207125").PN.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14 |
| S50         | O  | ("(insularnear2crystal)with(III\$1Vor<br>(groupnearIIInearnitride)").PN. | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14 |
| S51         | 1  | (insular near2 crystal) with (III\$1V or (group near III near nitride))  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14 |
| S52         | 6  | (insular near2 crystal) and (III\$1V or (group near III near nitride))   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14 |
| <b>S</b> 53 | O  | (10/443794).CQLS.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14 |
| S54         | 1  | 10/443794  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14 |
| S55         | 4  | ("2000068474").PN.   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14 |

| S56         | 513   | (III\$1V or (group near III near nitride))<br>and (groove same surface same<br>substrate) and @ad<"20040126" | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14  |
|-------------|-------|--|---|----|-----|----------------------|
| S57         | 0     | S56 and (buffer near (column\$2 island))   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14  |
| S58         | 2     | S56 and (substrate with surface with roughness)  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14  |
| S59         | 19    | (udagawa near takashi).in. and<br>(epitaxial near wafer)   | US PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14  |
| <b>S6</b> 0 | 18    | ("5103284"   "5455431").PN. OR<br>("5886367").URPN.  | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2009/12/29<br>18:14  |
| S61         | O     | ("("20030207125").PN.").PN.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14  |
| <b>S</b> 62 | 2     | ("20030207125").PN.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14  |
| S63         | 99489 | (III\$1V or (group near III near nitride))   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14  |
| S64         | 13993 | S63 with substrate   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>118:14 |
| S65         | 510   | S64 and (substrate with surface with (roughness rough))  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14  |

| S66         | 217 | S65 and @ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14 |
|-------------|-----|--|---|----|-----|---------------------|
| \$67        | 34  | ("20030064535"   "20040235268"   "20050032330"   "5013681"   "5217564"   "5231047"   "5374564"   "5391257"   "5637187"   "5641381"   "5713057"   "5877070"   "5882987"   "6020252"   "6103597"   "6150239"   "6221738"   "6242324"   "6323108"   "6328796"   "6346458"   "6429104"   "6465327"   "6497763"   "6504091"   "6794276"   "6815309"   "6908828"). PN. OR ("7019339").URPN.  | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2009/12/29<br>18:14 |
| <b>S</b> 68 | 44  | ("3964957"   "4495219"   "4530149"   "4906594"   "5141878"   "5198071"   "5198371"   "5213986"   "5374564"   "5409563"   "5427052"   "5494835"   "5506176"   "5508207"   "5518965"   "5559043"   "5686980"   "5705421"   "5714395"   "5841931"   "5854123"   "5869387"   "5869405"   "5877070"   "5966620"   "5966625"   "5968279"   "6004868"   "6008128"   "6107213"   "6143628"   "6162705"   "6171965"   "6171982"   "6194327"   "6204151"   "6214701"   "6251754"   "6274464"   "6287941"   "6342436").PN. OR | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2009/12/29<br>18:14 |
| <b>S6</b> 9 | 269 | (III\$1V or (group near III near nitride))<br>and (groove with surface with<br>substrate) and @ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14 |
| <b>S</b> 70 | 1   | 10/443794  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14 |
| S71         | 357 | (III\$1V or (group near III near nitride))<br>and (groove near4 substrate) and<br>@ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14 |
| S72         | 14  | ("4567393"   "5571603").PN. OR<br>("5821568").URPN.  | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2009/12/29<br>18:14 |
| S73         | 11  | ("5821568"   "5909036"   "6072197"  <br>"6086673"   "6107162"   "6225650"  <br>"6335546"   "6411636"   "6542526"  <br>"6576533").PN. OR ("6773504").URPN.  | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2009/12/29<br>18:14 |

| S74         | 343 | (III\$1V or (group near III near nitride))<br>and (surface with (roughness<br>irregularities) with substrate) and<br>@ad<"20040126"  | US PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14 |
|-------------|-----|--|---|----|-----|---------------------|
| S75         | 329 | S74 not (S71 or S69)   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14 |
| S76         | 2   | ("20030207125").PN.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14 |
| <b>S</b> 77 | 44  | ("3964957"   "4495219"   "4530149"   "4906594"   "5141878"   "5198071"   "5198371"   "5213986"   "5374564"   "5409563"   "5427052"   "5494835"   "5506176"   "5508207"   "5518965"   "5559043"   "5686980"   "5705421"   "5714395"   "5841931"   "5854123"   "5869387"   "5869405"   "5877070"   "5966620"   "5966625"   "5968279"   "6004868"   "6008128"   "6107213"   "6143628"   "6162705"   "6171965"   "6171982"   "6194327"   "6204151"   "6214701"   "6251754"   "6274464"   "6287941"   "6342436").PN. OR | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2009/12/29<br>18:14 |
| <b>S7</b> 8 | 42  | (III\$1V or (group near III near nitride))<br>and (groove with surface with<br>substrate with (".mu.m " or "nm")) and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14 |
| <b>S</b> 79 | 51  | (III\$1V or (group near III near nitride))<br>and ((groove near4 substrate) with (".<br>mu.m " or "nm")) and<br>@ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14 |
| S80         | 5   | ("4308078"   "6071795"   "6113685"  <br>"6348096"   "6426519"). PN. OR<br>("6864158"). URPN.   | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2009/12/29<br>18:14 |
| S81         | 39  | (III\$1V or (group near III near nitride))<br>and (groove same surface same<br>substrate same sapphire) and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14 |

| S82         | 7   | (III\$1V or (group near III near nitride))<br>and (groove same surface same<br>substrate same sapphire same depth)<br>and @ad<"20040126" | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>118:14 |
|-------------|-----|--|---|----|-----|----------------------|
| S83         | 18  | (III\$1V or (group near III near nitride))<br>and (groove same substrate same<br>sapphire same (depth deep)) and<br>@ad<"20040126"       | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14  |
| S84         | 5   | (III\$1V or (group near III near nitride))<br>and (roughness same substrate same<br>sapphire same (depth deep)) and<br>@ad<"20040126"    | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14  |
| S85         | 3   | (III\$1V or (group near III near nitride))<br>and (buffer near4 columnar) and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14  |
| <b>S</b> 86 | 3   | ("6376866"). PN. OR ("6917059").<br>URPN.  | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2009/12/29<br>18:14  |
| S87         | 168 | 257/11.ccls. and @ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>118:14 |
| <b>S8</b> 8 | 285 | 257/189.ccls. and @ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14  |
| <b>S</b> 89 | 310 | 257/615.ccls. and @ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14  |
| S90         | 3   | 257/e33.023.ccls. and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14  |
| S91         | 352 | 257/e33.049.ccls. and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14  |

| S92         | 32 | 257/e31.019.ccls. and<br>@ad<"20040126"                                  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2009/12/29<br>18:14 |
|-------------|----|--|---|----|-----|---------------------|
| S93         | 1  | "10586543"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2010/01/01<br>00:50 |
| S94         | 2  | ("20030207125").PN.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| <b>S</b> 95 | 0  | ("(insularnear2crystal)with(III\$1Vor<br>(groupnearIIInearnitride)").PN. | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S96         | 1  | (insular near2 crystal) with (III\$1V or (group near III near nitride))  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S97         | 6  | (insular near2 crystal) and (III\$1V or (group near III near nitride))   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| <b>S</b> 98 | 0  | (10/443794).OQLS.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S99         | 1  | 10/443794  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S100        | 4  | ("2000068474").PN.   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |

| S101 | 513   | (III\$1V or (group near III near nitride))<br>and (groove same surface same<br>substrate) and @ad<"20040126" | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
|------|-------|--|---|----|-----|---------------------|
| S102 | 0     | S101 and (buffer near (column\$2 island))  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S103 | 2     | S101 and (substrate with surface with roughness)   | US PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S104 | 19    | (udagawa near takashi).in. and<br>(epitaxial near wafer)   | US PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S105 | 18    | ("5103284"   "5455431").PN. OR<br>("5886367").URPN.  | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2010/01/01<br>00:50 |
| S106 | O     | ("("20030207125").PN.").PN.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S107 | 2     | ("20030207125").PN.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S108 | 99553 | (III\$1V or (group near III near nitride))   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S109 | 14012 | S108 with substrate  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S110 | 511   | S109 and (substrate with surface with (roughness rough))   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |

| S111 | 217 | S110 and @ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
|------|-----|--|---|----|-----|---------------------|
| S112 | 34  | ("20030064535"   "20040235268"   "20050032330"   "5013681"   "5217564"   "5231047"   "5374564"   "5391257"   "5637187"   "5641381"   "5713057"   "5877070"   "5882987"   "6020252"   "6103597"   "6150239"   "6221738"   "6242324"   "6323108"   "6328796"   "6346458"   "6429104"   "6465327"   "6497763"   "6504091"   "6794276"   "6815309"   "6908828"). PN. OR ("7019339").URPN.  | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2010/01/01<br>00:50 |
| S113 | 44  | ("3964957"   "4495219"   "4530149"   "4906594"   "5141878"   "5198071"   "5198371"   "5213986"   "5374564"   "5409563"   "5427052"   "5494835"   "5506176"   "5508207"   "5518965"   "5559043"   "5686980"   "5705421"   "5714395"   "5841931"   "5854123"   "5869387"   "5869405"   "5877070"   "5966620"   "5966625"   "5968279"   "6004868"   "6008128"   "6107213"   "6143628"   "6162705"   "6171965"   "6171982"   "6194327"   "6204151"   "6214701"   "6251754"   "6274464"   "6287941"   "6342436").PN. OR | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2010/01/01          |
| S114 | 269 | (III\$1V or (group near III near nitride))<br>and (groove with surface with<br>substrate) and @ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S115 | 1   | 10/443794  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S116 | 357 | (III\$1V or (group near III near nitride))<br>and (groove near4 substrate) and<br>@ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S117 | 14  | ("4567393"   "5571603").PN. OR<br>("5821568").URPN.  | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2010/01/01<br>00:50 |
| S118 | 11  | ("5821568"   "5909036"   "6072197"  <br>"6086673"   "6107162"   "6225650"  <br>"6335546"   "6411636"   "6542526"  <br>"6576533").PN. OR ("6773504").URPN.  | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2010/01/01<br>00:50 |

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|------|-----|--|---|----|-----|-----------------------------|
| S119 | 343 | (III\$1V or (group near III near nitride))<br>and (surface with (roughness<br>irregularities) with substrate) and<br>@ad<"20040126"  | US PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50         |
| S120 | 329 | S119 not (S116 or S114)  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50         |
| S121 | 2   | ("20030207125").PN.  | US PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50         |
| S122 | 44  | ("3964957"   "4495219"   "4530149"   "4906594"   "5141878"   "5198071"   "5198371"   "5213986"   "5374564"   "5409563"   "5427052"   "5494835"   "5506176"   "5508207"   "5518965"   "5559043"   "5686980"   "5705421"   "5714395"   "5841931"   "5854123"   "5869387"   "5869405"   "5877070"   "5966620"   "5966625"   "5968279"   "6004868"   "6008128"   "6107213"   "6143628"   "6162705"   "6171965"   "6171982"   "6194327"   "6204151"   "6214701"   "6251754"   "6274464"   "6287941"   "6342436").PN. OR | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2010/01/01<br>00:50         |
| S123 | 42  | (III\$1V or (group near III near nitride))<br>and (groove with surface with<br>substrate with (".mu.m " or "nm")) and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50         |
| S124 | 51  | (III\$1V or (group near III near nitride))<br>and ((groove near4 substrate) with (".<br>mu.m " or "nm")) and<br>@ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50         |
| S125 | 5   | ("4308078"   "6071795"   "6113685"  <br>"6348096"   "6426519").PN. OR<br>("6864158").URPN.   | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2010/01/01<br>00:50         |
| S126 | 39  | (III\$1V or (group near III near nitride))<br>and (groove same surface same<br>substrate same sapphire) and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50         |

| S127         | 7   | (III\$1V or (group near III near nitride))<br>and (groove same surface same<br>substrate same sapphire same depth)<br>and @ad<"20040126" | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
|--------------|-----|--|---|----|-----|---------------------|
| S128         | 18  | (III\$1V or (group near III near nitride))<br>and (groove same substrate same<br>sapphire same (depth deep)) and<br>@ad<"20040126"       | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S129         | 5   | (III\$1V or (group near III near nitride))<br>and (roughness same substrate same<br>sapphire same (depth deep)) and<br>@ad<"20040126"    | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S130         | 3   | (III\$1V or (group near III near nitride))<br>and (buffer near4 columnar) and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| <b>S</b> 131 | 3   | ("6376866"), PN. OR ("6917059").<br>URPN.  | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2010/01/01<br>00:50 |
| S132         | 168 | 257/11.ccls. and @ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S133         | 285 | 257/189.ccls. and @ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S134         | 310 | 257/615.ccls. and @ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S135         | 3   | 257/e33.023.ccls. and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S136         | 352 | 257/e33.049.ccls. and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |

| S137 | 32 | 257/e31.019.ccls. and<br>@ad<"20040126"                                  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
|------|----|--|---|----|-----|---------------------|
| S138 | 1  | "10586543"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2010/01/01<br>00:50 |
| S139 | 2  | ("20030207125").PN.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S140 | 0  | ("(insularnear2crystal)with(III\$1Vor<br>(groupnearIIInearnitride)").PN. | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S141 | 1  | (insular near2 crystal) with (III\$1V or (group near III near nitride))  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S142 | 6  | (insular near2 crystal) and (III\$1V or (group near III near nitride))   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S143 | 0  | (10/443794). COLS.   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S144 | 1  | 10/443794  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S145 | 4  | ("2000068474").PN.   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |

| S146         | 513   | (III\$1V or (group near III near nitride))<br>and (groove same surface same<br>substrate) and @ad<"20040126" | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
|--------------|-------|--|---|----|-----|---------------------|
| S147         | 0     | S146 and (buffer near (column\$2 island))  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S148         | 2     | S146 and (substrate with surface with roughness)   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S149         | 19    | (udagawa near takashi).in. and<br>(epitaxial near wafer)   | US PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| <b>S</b> 150 | 18    | ("5103284"   "5455431").PN. OR<br>("5886367").URPN.  | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2010/01/01<br>00:50 |
| S151         | 0     | ("("20030207125").PN.").PN.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S152         | 2     | ("20030207125").PN.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S153         | 99553 | (III\$1V or (group near III near nitride))   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S154         | 14012 | S153 with substrate  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S155         | 511   | S154 and (substrate with surface with (roughness rough))   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |

| S156 | 217 | S155 and @ad< "20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
|------|-----|--|---|----|-----|---------------------|
| S157 | 34  | ("20030064535"   "20040235268"   "20050032330"   "5013681"   "5217564"   "5231047"   "5374564"   "5391257"   "5637187"   "5641381"   "5713057"   "5877070"   "5882987"   "6020252"   "6103597"   "6150239"   "6221738"   "6242324"   "6323108"   "6328796"   "6346458"   "6429104"   "6465327"   "6497763"   "6504091"   "6794276"   "6815309"   "6908828"). PN. OR ("7019339").URPN.  | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2010/01/01<br>00:50 |
| S158 | 44  | ("3964957"   "4495219"   "4530149"   "4906594"   "5141878"   "5198071"   "5198371"   "5213986"   "5374564"   "5409563"   "5427052"   "5494835"   "5506176"   "5508207"   "5518965"   "5559043"   "5686980"   "5705421"   "5714395"   "5841931"   "5854123"   "5869387"   "5869405"   "5877070"   "5966620"   "5966625"   "5968279"   "6004868"   "6008128"   "6107213"   "6143628"   "6162705"   "6171965"   "6171982"   "6194327"   "6204151"   "6214701"   "6251754"   "6274464"   "6287941"   "6342436").PN. OR | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2010/01/01          |
| S159 | 269 | (III\$1V or (group near III near nitride))<br>and (groove with surface with<br>substrate) and @ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S160 | 1   | 10/443794  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S161 | 357 | (III\$1V or (group near III near nitride))<br>and (groove near4 substrate) and<br>@ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S162 | 14  | ("4567393"   "5571603").PN. OR<br>("5821568").URPN.  | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2010/01/01<br>00:50 |
| S163 | 11  | ("5821568"   "5909036"   "6072197"  <br>"6086673"   "6107162"   "6225650"  <br>"6335546"   "6411636"   "6542526"  <br>"6576533").PN. OR ("6773504").URPN.  | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2010/01/01<br>00:50 |

| S164  | 343 | (III\$1V or (group near III near nitride))<br>and (surface with (roughness<br>irregularities) with substrate) and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
|-------|-----|--|---|----|-----|---------------------|
| S165  | 329 | S164 not (S161 or S159)  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S166  | 2   | ("20030207125").PN.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| \$167 | 44  | ("3964957"   "4495219"   "4530149"   "4906594"   "5141878"   "5198071"   "5198371"   "5213986"   "5374564"   "5409563"   "5427052"   "5494835"   "5506176"   "5508207"   "5518965"   "5559043"   "5686980"   "5705421"   "5714395"   "5841931"   "5854123"   "5869387"   "5869405"   "5877070"   "5966620"   "5966625"   "5968279"   "6004868"   "6008128"   "6107213"   "6143628"   "6162705"   "6171965"   "6171982"   "6194327"   "6204151"   "6214701"   "6251754"   "6274464"   "6287941"   "6342436").PN. OR | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2010/01/01          |
| S168  | 42  | (III\$1V or (group near III near nitride))<br>and (groove with surface with<br>substrate with (".mu.m " or "nm")) and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S169  | 51  | (III\$1V or (group near III near nitride))<br>and ((groove near4 substrate) with (".<br>mu.m " or "nm")) and<br>@ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01          |
| S170  | 5   | ("4308078"   "6071795"   "6113685"  <br>"6348096"   "6426519").PN. OR<br>("6864158").URPN.   | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2010/01/01<br>00:50 |
| S171  | 39  | (III\$1V or (group near III near nitride))<br>and (groove same surface same<br>substrate same sapphire) and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |

| S172         | 7   | (III\$1V or (group near III near nitride))<br>and (groove same surface same<br>substrate same sapphire same depth)<br>and @ad<"20040126" | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
|--------------|-----|--|---|----|-----|---------------------|
| S173         | 18  | (III\$1V or (group near III near nitride))<br>and (groove same substrate same<br>sapphire same (depth deep)) and<br>@ad<"20040126"       | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S174         | 5   | (III\$1V or (group near III near nitride))<br>and (roughness same substrate same<br>sapphire same (depth deep)) and<br>@ad<"20040126"    | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| <b>S</b> 175 | 3   | (III\$1V or (group near III near nitride))<br>and (buffer near4 columnar) and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S176         | 3   | ("6376866").PN. OR ("6917059").<br>URPN.   | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2010/01/01<br>00:50 |
| S177         | 168 | 257/11.ccls. and @ad< "20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S178         | 285 | 257/189.ccls. and @ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S179         | 310 | 257/615.ccls. and @ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S180         | 3   | 257/e33.023.ccls. and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
| S181         | 352 | 257/e33.049.ccls. and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |

| S182 | 32   | 257/e31.019.ccls. and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/01/01<br>00:50 |
|------|------|--|---|----|-----|---------------------|
| S183 | 1    | "10586543"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2010/04/12<br>14:49 |
| S184 | 0    | S183 and scratch and strip\$3  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2010/04/12<br>14:49 |
| S185 | O    | S183 and scratch and stripe\$3   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2010/04/12<br>14:50 |
| S186 | 1    | S183 and scratch   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2010/04/12<br>14:50 |
| S187 | 0    | S183 and scratch and random  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2010/04/12<br>14:56 |
| S188 | 1    | S183 and scratch and roughness   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2010/04/12<br>14:56 |
| S189 | 1547 | "117"/\$3 and III-V  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/07/31<br>21:16 |
| S190 | 533  | (III\$1V or (group near III near nitride))<br>and ((groove scratch) same surface<br>same substrate) and @ad<"20040126" | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/07/31<br>21:17 |

| S191         | O    | (III\$1V or (group near III near nitride))<br>and ((groove scratch) same surface<br>same substrate same (non-periodic\$4<br>or nonperiodic\$4)) and<br>@ad<"20040126" | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/07/31<br>21:18 |
|--------------|------|---|---|----|-----|---------------------|
| S192         | 1547 | "117"/\$3 and III-V   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/07/31<br>22:08 |
| S193         | 13   | S192 and (III\$1V or (group near III<br>near nitride)) and ((groove scratch)<br>near5 surface same substrate) and<br>@ad<"20040126"                                   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/07/31<br>22:08 |
| S194         | 9    | ((YASUHITO) near2 (URASHIMA)).INV.  | US-PGPUB;<br>USPAT  | OR | OFF | 2010/07/31<br>22:43 |
| <b>S</b> 195 | 13   | S192 and ((groove scratch) near5<br>surface same substrate) and<br>@ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/07/31<br>22:46 |
| S196         | 42   | S192 and ((groove scratch) same<br>substrate) and @ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/07/31<br>22:46 |
| S197         | O    | (III\$1V or (group near III near nitride))<br>and ((groove near3 (non-periodic or<br>ninperiodic)) with surface with<br>substrate) and @ad<"20040126"                 | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/07/31<br>22:49 |
| S198         | 8    | ("20020078881"   "20030207125"  <br>"6864158"   "6917059").PN.  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/07/31<br>22:51 |
| S199         | 2    | "20030207125"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/07/31<br>22:55 |
| S200         | 327  | 257/51.ccls. and @ad<"20040126"   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/07/31<br>23:25 |

| S201  | 488 | 257/e21.108.ccls. and<br>@ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/07/31<br>23:26 |
|-------|-----|--|---|----|-----|---------------------|
| \$202 | 0   | (Group-III and nitride adj<br>semiconductor and buffer adj layer and<br>substrate and (columnar or island-like)<br>and non-periodically and scratches and<br>average adj depth).clm. | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2010/07/31<br>23:54 |
| \$203 | 4   | ("20020170489"   "6232623"). PN.   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/08/16<br>21:28 |
| \$204 | 0   | (substrate near3 (saphire or "Al.sub.2O. sub.3" or silicon adj carbide or SiC)) with (groove recess) with (non \$1periodically)  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/08/17<br>13:45 |
| \$205 | 1   | (substrate near3 (saphire or "Al.sub.2O. sub.3" or silicon adj carbide or SiC)) same (groove recess) same (non \$1periodically)  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/08/17<br>13:45 |
| \$206 | 2   | (substrate near3 (saphire or "Al.sub.2O.<br>sub.3" or silicon adj carbide or SiC))<br>same (non\$1periodic non<br>\$1periodically)   | US PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/08/17<br>13:47 |
| \$207 | 4   | ("20020170489"   "6232623").PN.  | US PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/08/17<br>13:49 |
| S208  | 2   | ("20020170489"   "6232623").PN.  | US-PGPUB;<br>USPAT  | OR | ON  | 2010/08/17<br>13:49 |
| S209  | 32  | ("5604763"   "5919305").PN. OR<br>("6232623").URPN.  | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2010/08/17<br>13:57 |
| S210  | 7   | ("20010019136"   "6015979"  <br>"6030848"   "6232623"   "6408015").<br>PN. OR ("6764871"). URPN.   | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2010/08/17<br>14:08 |
| \$211 | 0   | (substrate with (saphire or "Al.sub.2O. sub.3" or silicon adj carbide or SiC)) with (groove recess) with (non \$1periodic non\$1periodically)  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/08/17<br>14:28 |

| S212  | 393 | (substrate with (saphire or "Al.sub.2O. sub.3" or silicon adj carbide or SiC)) with (groove recess)                                      | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/08/17<br>14:29 |
|-------|-----|--|---|----|-----|---------------------|
| \$213 | 608 | (substrate with (saphire or "Al.sub.2O. sub.3" or silicon adj carbide or SiC)) with (groove recess)                                      | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2010/08/17<br>14:29 |
| S214  | 303 | S213 and @ad<"20040126"  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/08/17<br>14:31 |
| S215  | 211 | S213 and @ad<"20040126"  | US-PGPUB;<br>USPAT  | OR | ON  | 2010/08/17<br>14:32 |
| S216  | 12  | ("3400057"   "3958554"   "5976711"  <br>"6183874").PN.   | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2010/08/17<br>16:07 |
| S217  | 459 | (substrate with (saphire or "Al.sub.2O. sub.3" or silicon adj carbide or SiC)) with (rough roughness uneven unevenness)                  | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/08/17<br>16:15 |
| S218  | 392 | (substrate with (saphire or "Al.sub.2O. sub.3" or silicon adj carbide or SiC)) with surface with (rough roughness uneven unevenness)     | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/08/17<br>16:15 |
| S219  | 392 | (substrate with (saphire or "Al.sub.2O. sub.3" or silicon adj carbide or SiC)) with surface with (rough roughness uneven unevenness)     | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/08/17<br>18:29 |
| S220  | 124 | \$219 and @ad<"20040126"   | US-PGPUB;<br>USPAT  | OR | ON  | 2010/08/17<br>18:29 |
| S221  | 6   | ("5154023"   "5376224"   "6197660").<br>PN. OR ("6858537").URPN.   | US-PGPUB;<br>USPAT; USOCR   | OR | OFF | 2010/08/17<br>19:50 |
| S222  | 53  | (substrate with (saphire or "Al.sub.2O. sub.3" or silicon adj carbide or SiC)) with ((groove recess) near3 (thick thickness deep depth)) | US-PGPUB;<br>USPAT;<br>USOCR; FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2010/08/18<br>12:05 |
| S223  | 18  | S222 and @ad<"20040126"  | US-PGPUB;<br>USPAT  | OR | ON  | 2010/08/18<br>12:06 |

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